

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
7 October 2004 (07.10.2004)

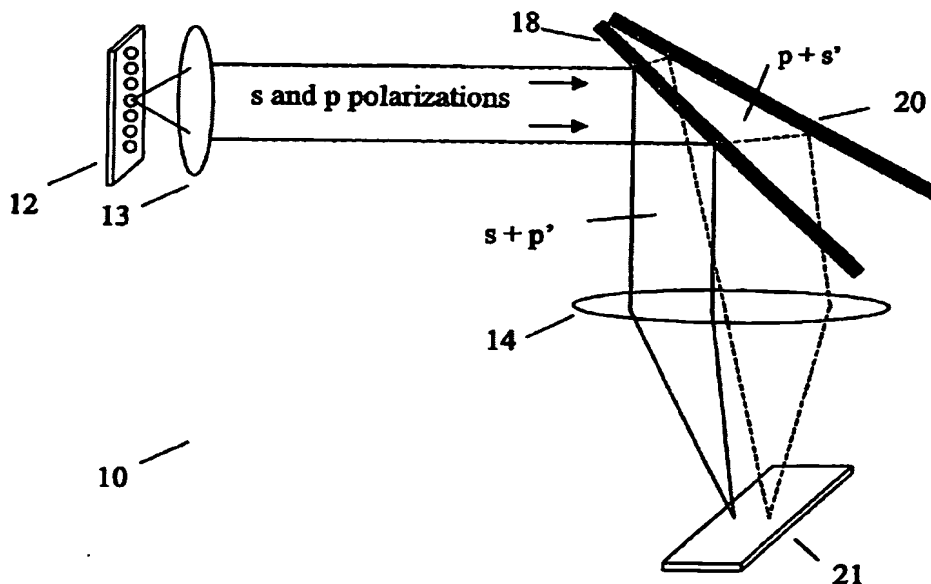
PCT

(10) International Publication Number
WO 2004/085670 A2

- (51) International Patent Classification⁷: C12Q
- (21) International Application Number: PCT/US2004/008906
- (22) International Filing Date: 24 March 2004 (24.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/456,928 24 March 2003 (24.03.2003) US
- (71) Applicant (for all designated States except US): PERKINELMER LAS, INC. [US/US]; 549 Albany Street, Boston, MA 02118 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): OLEKSY, Jerome, E. [US/US]; 1004 Vine Avenue, Park Ridge, IL 60068 (US). RENCIS, Erik, V. [US/US]; 8716 Stonehouse Drive, Bellicott City, MD 21043 (US).
- (74) Agent: MYERS, Louis; Fish & Richardson P.C., 225 Franklin Street, Boston, MA 02110-2804 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published: — without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: POLARIZATION DETECTION



(57) **Abstract:** Disclosed is an optical device for receiving light having a wavelength between 400 nm and 680 nm. The device has a polarizing beam splitter (PBS) that comprises a substrate having a first and second surface, at least one of which being coated with a substantially parallel array of elongated conducting elements, wherein the PBS reflects light of a first polarity and transmits light of the opposite polarity; and a reflector positioned to reflect the opposite polarity light back through the PBS to the front surface, wherein the reflector does not substantially alter the polarity of light at any position. The device can be used to detect fluorescence polarization of a sample.